

# **RTI Performance Framework**

**18 June 1997**

# Background

- **There is tremendous interest in ‘RTI Performance’**
  - **However, there has also been significant variation in what is meant by ‘RTI Performance’**
- **A common way to characterize RTI performance is needed to provide a common foundation for discussion across the HLA community (users, developers, planners)**
  - **Common terms of reference for discussions**
  - **A “nutrition label” for RTIs**
- **This provides..**
  - **A common understanding of performance test results**
  - **Basis for comparison of RTI performance**
    - ♦ **between implementations**
    - ♦ **between versions**
    - ♦ **between different federation applications**
  - **A context for procuring new RTI software**

# **Performance Framework Actions To Date**

- **AMG-17 Action Item**
  - requested input from AMG members on RTI performance needs
- **A draft RTI performance worksheet was created based on AMG inputs**
  - Draft worksheet was sent out for comments and was used as basis for discussion at technical exchange
- **March 18: Held a technical exchange meeting to review worksheet and discuss next steps; results were presented at AMG18**
- **Following AMG18 several users attempted to use draft worksheet to characterize performance requirements, these efforts suggested revisions were needed**
  - Worksheets covered all the salient elements, but these were not framed in a way that a federation execution planner could clearly describe a federation execution plan

# **Federation Execution Planners Workbook**

- **Revision resulted in a “Federation Execution Planners Workbook”**
  - **Series of worksheets describing elements of a federation execution needed to define and estimate performance requirements**
  - **Provides a first step toward definition of “Federation Required Execution Details” (FRED) in the FEDEP**
- **Workbook provides a structured format to describe execution details of a fedex**
  - **includes information needed to assess performance considerations**
  - **includes information need to plan the execution in any case**
- **Workbook was distributed to AMG technical community and volunteers were sought for testing the workbook by using it to describe a federation execution**
  - **“cost’ of entry for June 10 Performance technical exchange**

# June Performance Technical exchange

- **Objective: Review use of Federation Execution Planning Workbook by:**
  - Federation execution planners
  - RTI test team
- **Topics**
  - Review Workbook section by section
  - Review initial use of workbook as a context for RTI testing
- **FEDEX Examples**
  - JADs, PPF, HLA C2 Experiment fedex, GTRI Radar fedex, NAWTSD Simulator fedex
- **RTI Testing Examples**
  - Series of Jager tests

# Technical Exchange Discussion Points

- **Focus of performance interest was on ‘Update-reflect attribute transactions’**
  - Other areas were of known interest but focus was in this area
- **Recognition that there are a wide range of federation characteristics which can impact the performance of an RTI in this area**
  - Important that these are measured/controlled if results are to be generally useful
  - Revised worksheet reflects those identified
- **Different user communities have both different performance criteria and different federation characteristics**
  - Useful performance framework needs to provide right ‘categories’ but allow ‘values’ to be adjusted for needs of application
- **Performance of a fedex is much more than the RTI**
  - The wide variety of fedex characteristics which are needed to characterize the federation from a performance perspective suggests that these characteristics provide options for improving performance

# Results of Technical Exchange

- **Revised worksheet to reflect results of the discussions**
- **Re-cast RTI IPT performance testing in this framework**
  - **RTI IPT performance experiments and results in terms of draft framework**